Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Currently Amended) A polymer composition comprising:

a hydrophilic polymer;

a hydrophobic polymer; and

a bioactive agent selected from the group consisting of a metal oxide of silver, a metal oxide of copper, a metal oxide of zinc, and combinations thereof;

wherein the hydrophobic polymer forms a continuous phase;

wherein the bioactive agent is dispersed within the hydrophilic polymer;

wherein the polymer composition contains less than 1 wt% water based on the total weight of the composition; and

wherein the bioactive agent has a particle size less than one micron.

2. (Previously Presented) The polymer composition of claim 1, wherein the hydrophilic polymer is an anionic polymer, a cationic polymer, an amphoteric polymer, or combinations thereof.

3. (Currently Amended) The polymer composition of claim 1 wherein the hydrophilic polymer is selected from the group consisting of a polyhydroxyalkyl acrylates and methacrylates; poly(meth)acrylic acid and salts thereof; polyvinyl alcohols; polyoxyalkylenes; polystyrene sulfonates; polysaccharides;[[;]] alginates; gums; cellulosics; polymers prepared from water-soluble hydrazine derivatives; polyurethanes, mono-olefinic sulfonic acids and their salts; and combinations thereof.

4. (Original) The polymer composition of claim 1 wherein the hydrophilic polymer is an

amine-containing organic polymer selected from the group consisting of poly(quaternary amines), polylactams, polyamides, and combinations thereof .

5. (Original) The polymer composition of claim 1 wherein the hydrophilic polymer is a quaternary ammonium salt of an organic polymer.

6. (Original) The polymer composition of claim 1, wherein the hydrophilic polymer is a carboxylic acid-containing organic polymer.

7. (Currently Amended) A polymer composition preparable by a method comprising combining components comprising:

a hydrophilic polymer;

a hydrophobic polymer;

a metal compound selected from the group consisting of a silver compound, a copper compound, a zinc compound, and combinations thereof, wherein the silver compound has a solubility of at least 0.1 gram per liter in water;

water in an amount of 1 to 20 wt% based on the total weight of the polymer composition; and

a hydroxide source that converts the metal compound to the corresponding metal oxide;

wherein the components are combined in a manner to disperse the metal oxide within the hydrophilic polymer and to form a continuous hydrophobic phase.

8. (Previously Presented) The polymer composition of claim 7 wherein the hydrophilic polymer is selected from the group consisting of polyhydroxyalkyl acrylates and methacrylates; poly(meth)acrylic acid and salts thereof; polyvinyl alcohols; polyoxyalkylenes; polystyrene sulfonates; polysaccharides; alginates; gums; cellulosics; polymers prepared from water-soluble hydrazine derivatives; polyurethanes, mono-olefinic sulfonic acids and their salts; and

combinations thereof.

9. (Original) The polymer composition of claim 7 wherein the hydrophilic polymer is an amine-containing organic polymer selected from the group consisting of poly(quaternary amines), polylactams, polyamides, and combinations thereof.

10. (Original) The polymer composition of claim 9 wherein the amine-containing organic polymer is a quaternary ammonium salt of an organic polymer.

11. (Cancelled)

12. (Original) The polymer composition of claim 7, wherein the hydrophilic polymer is a carboxylic acid-containing organic polymer.

13. (Currently Amended) A polymer composition preparable by a method comprising combining components comprising:

a hydrophilic polymer;

a hydrophobic polymer;

an ammonia source;

a metal oxide selected from the group consisting of silver oxides, copper oxides, zinc oxide, and combinations thereof; and

water in an amount of 1 to 20 wt% based on the total weight of the polymer composition;

wherein the components are combined in a manner to disperse the metal oxide within the hydrophilic polymer and to form a continuous hydrophobic phase; and

wherein the metal oxide has a particle size of less than one micron.

14. (Previously Presented) The polymer composition of claim 13 wherein the hydrophilic

polymer is selected from the group consisting of polyhydroxyalkyl acrylates and methacrylates; poly(meth)acrylic acid and salts thereof; polyvinyl alcohols; polyoxyalkylenes; polystyrene sulfonates; polysaccharides; alginates; gums; cellulosics; polymers prepared from water-soluble hydrazine derivatives; polyurethanes, mono-olefinic sulfonic acids and their salts; and combinations thereof.

15. (Original) The polymer composition of claim 13 wherein the ammonia source is selected from the group consisting of ammonia and ammonium salts.

16. (Original) The polymer composition of claim 15 wherein the ammonium salt is selected from the group consisting of ammonium pentaborate, ammonium acetate, ammonium carbonate, ammonium peroxyborate, ammonium tertraborate, triammonium citrate, ammonium carbamate, ammonium bicarbonate, ammonium malate, ammonium nitrate, ammonium nitrite, ammonium succinate, ammonium sulfate, ammonium tartarate, and mixtures thereof.

17. (Previously Presented) The polymer composition of claim 13 wherein the ammonia source and the metal oxide form an ammonia-metal complex with a solubility greater than 0.1 gram per liter in water.

18. (Original) The polymer composition of claim 13, wherein the hydrophilic polymer is a carboxylic acid-containing organic polymer.

19. (Currently Amended) A composition preparable by a method comprising combining components comprising:

a dispersion comprising a hydrophobic polymer and absorbent hydrophilic microparticles, wherein the microparticles when in a nonhydrated form have an average particle size of 10 microns or less;

a metal compound selected from the group consisting of a silver compound, a copper compound, a zinc compound, and combinations thereof, wherein the silver compound has a solubility in water of at least 0.1 gram per liter in water; and

a hydroxide source that converts the metal compound to the corresponding metal oxide;

wherein the components are combined in a manner to produce a polymer composition wherein the hydrophobic polymer forms a continuous phase and the metal oxide is incorporated within the hydrophilic microparticles.

20. (Original) The polymer composition of claim 19 wherein the dispersion comprises absorbent hydrophilic microparticles, wherein the microparticles comprise an amine-containing organic polymer selected from the group consisting of a poly(quaternary amine), a polylactam, a polyamide, and combinations thereof.

21. (Original) The polymer composition of claim 19 wherein the dispersion comprises absorbent hydrophilic microparticles, wherein the microparticles comprise a carboxylic –acid containing organic polymer.

22. (Previously Presented) The polymer composition of claim 19 wherein the microparticles have an average particle size of 1 micron or less when in a nonhydrated form.

23. (Previously Presented) The polymer composition of claim 19 wherein the microparticles have an average particle size of 0.5 micron or more when in a nonhydrated form.

24. (Previously Presented) The polymer composition of claim 19 further comprising secondary absorbent particles having an average particle size of greater than 10 microns when in a nonhydrated form.

25. (Original) The polymer composition of claim 24 wherein the secondary absorbent particles having an average particle size of greater than 10 microns are superabsorbent.

26. (Original) The polymer composition of claim 19 wherein the microparticles are superabsorbent.

27. (Currently Amended) A polymer composition preparable by a method comprising combining components comprising:

an organic polymer matrix comprising a hydrophobic polymer;

a dispersion comprising absorbent hydrophilic microparticles, wherein the microparticles when in a nonhydrated form have an average particle size of 10 microns or less;

a metal compound selected from the group consisting of a silver compound, a copper compound, a zinc compound, and combinations thereof, wherein the silver compound has a solubility of at least 0.1 gram per liter in water; and

a hydroxide source that converts the metal compound to the corresponding metal oxide;

wherein the components are combined in a manner to produce a polymer composition wherein the hydrophobic polymer forms a continuous phase and the metal oxide is incorporated within the hydrophilic microparticles.

28. (Original) The polymer composition of claim 27 wherein the dispersion comprises absorbent hydrophilic microparticles, wherein the microparticles comprise an amine-containing organic polymer selected from the group consisting of a poly(quaternary amine), a polylactam, a polyamide, and combinations thereof.

29. (Original) The polymer composition of claim 27 wherein the dispersion comprises absorbent hydrophilic microparticles, wherein the microparticles comprise a carboxylic-acid-containing organic polymer.

30. (Previously Presented) The polymer composition of claim 27 wherein the microparticles have an average particle size of 1 micron or less when in a nonhydrated form.

31. (Previously Presented) The polymer composition of claim 27 wherein the microparticles have an average particle size of 0.5 micron or more when in a nonhydrated form.

32. (Previously Presented) The polymer composition of claim 27 further comprising secondary absorbent particles having an average particle size of greater than 10 microns when in a nonhydrated form.

33. (Original) The polymer composition of claim 32 wherein the secondary absorbent particles having an average particle size of greater than 10 microns are superabsorbent.

34. (Original) The polymer composition of claim 27 wherein the microparticles are superabsorbent.

35. (Original) The polymer composition of claim 27 wherein the organic polymer matrix comprises an elastomeric polymer.

36. (Previously Presented) The polymer composition of claim 35 wherein the elastomeric polymer is selected from the group consisting of a polyisoprene, a styrene-diene block copolymer, a natural rubber, a polyurethane, a polyether-block-amide, a poly-alpha-olefin, a (C1-C20) acrylic ester of (meth)acrylic acid, an ethylene-octene copolymer, and combinations thereof.

37. (Original) The polymer composition of claim 27 wherein the organic polymer matrix comprises a thermoplastic polymer.

38. (Original) The polymer composition of claim 37 wherein the thermoplastic polymer is a polyolefin.

39. (Original) The polymer composition of claim 27 wherein the organic polymer matrix comprises a hydrophilic polymer selected from the group consisting of a polysaccharide, a polyether, a polyurethane, a polyacrylate, a cellulosic, and an alginate.

40. (Original) The polymer composition of claim 27 wherein the hydrophilic polymer microparticles comprise a quaternary ammonium salt of an organic polymer.

41. (Original) The polymer composition of claim 40 wherein the microparticles comprise a cationic homopolymer of the methyl chloride quaternary salt of 2-(dimethylamino)ethyl methacrylate.

42. (Original) The polymer composition of claim 27 further comprising an additive selected from the group consisting of a plasticizer, a tackifier, a crosslinking agent, a stabilizer, an extruding aid, a filler, a pigment, a dye, a swelling agent, a foaming agent, a chain transfer agent, and combinations thereof.

43. (Original) The polymer composition of claim 27 wherein the organic polymer matrix comprises a mixture of two or more polymers.

44. (Original) The polymer composition of claim 27 wherein the microparticles are present in an amount of 1 wt-% to 60 wt-%, based on the total weight of the polymer composition.

45. (Original) The polymer composition of claim 27 wherein the composition includes water

in an amount of 1 wt-% to 20 wt-%, based on the total weight of the polymer composition.

46. (Currently Amended) An extruded film comprising t[[T]]he polymer composition of claim 1 ~~in the form of an extruded film~~.

47. (Currently Amended) A foam comprising t[[T]]he polymer composition of claim 1 ~~in the form of a foam~~.

48. (Original) The polymer composition of claim 1 wherein the composition is stable.

49. (Original) The polymer composition of claim 1, wherein the composition is in the form of a hydrocolloid.

50. (Original) The polymer composition of claim 7 comprising water in an amount of less than 1 weight percent, based on the total weight of the polymer composition.

51. (Cancelled)

52. (Cancelled)

53. (Currently Amended) The polymer composition of claim [[52]] 27 wherein the hydrophobic phase is liquid at room temperature.

54. (Previously Presented) The polymer composition of claim 53 wherein the hydrophobic phase is mineral oil.

55. (Currently Amended) The polymer composition of claim [[52]] 27 wherein the

hydrophobic phase is solid at room temperature.

56 - 57. (Cancelled)

58. (Previously Presented) The polymer composition of claim 35 wherein the elastomeric polymer is selected from the group consisting of styrene-isoprene-styrene (SIS), styrene-butadiene-styrene (SBS), styrene-ethylene-propylene-styrene (SEPS), and styrene-ethylene-butylene-styrene (SEBS).

59. (Original) The polymer composition of claim 7 further comprising a swelling agent.

60. (Original) A medical article comprising the polymer composition of claim 1.

61. (Withdrawn) A method of using a polymer composition comprising applying the polymer composition of claim 1 to a wound.

62. (Currently Amended) A method of making a polymer composition, wherein the method comprises:

combining a dispersion comprising hydrophilic organic microparticles with water in an amount of 1 to 20 wt% based on the total weight of the polymer composition and a metal compound under conditions effective to distribute all of the metal compound in the hydrophilic organic microparticles, wherein the metal compound is selected from the group consisting of a silver compound, a copper compound, a zinc compound, and combinations thereof; wherein the silver compound has a solubility in water of at least 0.1 gram per liter in water;

adding a hydroxide source to convert the metal compound to the corresponding metal oxide within the hydrophilic organic microparticles;

optionally adding a secondary organic polymer to the dispersion; and

optionally removing a substantial portion of the water.

63. (Original) The method of claim 62, further comprising the step of adding an oxidizing agent to form a higher valence metal oxide.

64. (Original) The method of claim 62, further comprising subjecting the polymer composition to radiation.

65. (Original) The method of claim 62, further comprising extruding or molding the composition.

66. (Currently Amended) A method of making a polymer composition, wherein the method comprises:

combining monomers for a hydrophilic organic polymer with a metal compound under conditions effective to polymerize the monomers and distribute all of the metal compound within the hydrophilic organic polymer, wherein the metal compound is selected from the group consisting of a silver compound, a copper compound, a zinc compound, and combinations thereof; wherein the silver compound has a solubility in water of at least 0.1 gram per liter in water;

adding a hydroxide source to convert the bioactive agent to the corresponding metal oxide within the hydrophilic organic polymer; and

optionally adding a secondary organic polymer to the hydrophilic organic polymer.

67. (Withdrawn) A wound dressing comprising the composition of claim 27 coated on an apertured liquid permeable substrate wherein the composition is nonadherent.

68. (Withdrawn) A medical article comprising a substrate impregnated with one or more

metal oxides of silver, copper and zinc wherein the impregnated substrate has less than 1 N/cm peel strength to steel and does not adhere to wound tissue.

69. (Withdrawn) A medical article comprising a substrate impregnated with one or more metal oxides of silver, copper and zinc with an average particle size less than 1 micron dispersed within a hydrocolloid.

70. (Currently Amended) A method of forming silver oxide in a hydrocolloid, the method comprising:

providing a mixture of a hydrocolloid and a solution of a silver compound with a solubility of at least 0.1 gram per liter in water; wherein the hydrocolloid comprises hydrophilic particles;

adding a hydroxide source under conditions sufficient to [[form an]] convert the silver compound to a metal oxide of silver (I) and disperse the silver oxide within the hydrophilic particles of the hydrocolloid;

wherein water in the solution is present in an amount of 1 to 20 wt% based on the total weight of the hydrocolloid[[;

wherein the silver oxide is dispersed within the hydrocolloid]].

71. (Original) The method of claim 70, further comprising the step of adding an oxidizing agent to form a higher valence oxide of silver.

72. (Original) The method of claim 70, further comprising the step of adding a hydrophobic polymer.

73. (Currently Amended) The method of claim 70 wherein the hydrophilic particles of the hydrocolloid [[has]] have a particle size less than 10 microns.

74. (Original) The method of claim 72 wherein the hydrophobic polymer comprises styrene-isoprene-styrene.

75. (Currently Amended) A polymer composition comprising:

a hydrophilic polymer;

a hydrophobic polymer; and

a silver oxide;

wherein the polymer composition contains less than 1 wt% water based on the total weight of the composition;

wherein the silver oxide is dispersed within the hydrophilic polymer;

wherein the hydrophobic polymer forms a continuous phase; and

wherein all of the silver oxide has a average particle size less than one micron.

76. (Currently Amended) A method of making a polymer composition comprising:

combining a hydrophilic polymer[[,]] ;

a metal compound selected from the group consisting of a silver compound, a copper compound, a zinc compound, and combinations thereof, wherein the silver compound has a solubility in water of at least 0.1 gram per liter in water;

water in an amount of 1 to 20 wt% based on the total weight of the polymer composition; and

a hydroxide source that converts the metal compound to the corresponding metal oxide; and

providing conditions effective to convert the metal compound to the corresponding metal oxide and disperse [[dispersing]] the metal oxide within the hydrophilic polymer.

77. (Previously Presented) The method of claim 76 wherein the hydrophilic polymer is

selected from the group consisting of polyhydroxyalkyl acrylates and methacrylates; poly(meth)acrylic acid and salts thereof; polyvinyl alcohols; polyoxyalkylenes; polystyrene sulfonates; polysaccharides; alginates; gums; cellulosics; polymers prepared from water-soluble hydrazine derivatives; polyurethanes, mono-olefinic sulfonic acids and their salts; and combinations thereof.

78. (Original) The method of claim 76 wherein the hydrophilic polymer is an amine-containing organic polymer selected from the group consisting of poly(quaternary amines), polylactams, polyamides, and combinations thereof.

79. (Original) The method of claim 78 wherein the amine-containing organic polymer is a quaternary ammonium salt of an organic polymer.

80. (Original) The method of claim 76 wherein the hydrophilic polymer comprises absorbent hydrophilic microparticles, wherein the microparticles comprise a carboxylic–acid containing organic polymer.

81. (Original) The method of claim 76, wherein the hydroxide source is added after combining the bioactive agent and the hydrophilic polymer.

82. (Original) The method of claim 76, further comprising combining an oxidizing agent with the hydrophilic polymer, the bioactive agent, and the hydroxide source.

83. (Original) The method of claim 82, wherein the oxidizing agent is added after combining the hydrophilic polymer, the bioactive agent, and the hydroxide source.

84. (Currently Amended) A method of making a polymer composition, comprising:

combining a hydrophilic polymer;

an ammonia source;

water in an amount of 1 to 20 wt% based on the total weight of the polymer composition; and

a metal oxide selected from the group consisting of silver oxides, copper oxides, zinc oxides, and combinations thereof; and

providing conditions effective to disperse [[dispersing]] the metal oxide within the hydrophilic polymer;

wherein the metal oxide particle size is less than one micron.

85. (Original) The method of claim 84, wherein the ammonia source and metal oxide are combined before combining with the hydrophilic polymer.

86. (Original) The method of claim 84, further comprising combining an oxidizing agent with the hydrophilic polymer, the ammonia source, and the metal oxide.

87. (Original) The method of claim 86, wherein the oxidizing agent is added after combining the hydrophilic polymer, the ammonia source, and the metal oxide.

88. (Previously Presented) The method of claim 84, further comprising removing a substantial portion of the water.

89. (Original) A medical article comprising the polymer composition of claim 7.

90. (Withdrawn) A method of using a polymer composition comprising applying the polymer composition of claim 7 to a wound.

91. (Original) A medical article comprising the polymer composition of claim 13.

92. (Withdrawn) A method of using a polymer composition comprising applying the polymer composition of claim 13 to a wound.

93. (Withdrawn) A wound dressing comprising the composition of claim 13 coated on an apertured liquid permeable substrate wherein the composition is nonadherent.